

SECRETNPIC/P&DS-148/64
12 August 1964

MEMORANDUM FOR: Assistant for Administration

SUBJECT: Monthly Activity Report for July, 1964.

GENERAL STAFF OCCURRENCES:

Summer vacations continue to cut heavily into available manpower. However, planned developmental activities are proceeding at very nearly the pace anticipated.

[redacted] was interviewed for the position of Deputy Assistant for Plans and Development, but it was determined that his experience was not relevant to the work of the Staff. DIA has nominated another candidate for the job and an interview is being arranged.

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An apparent impasse was reached between NPIC and GSA regarding space on the first floor of Building 213 for the P&DS equipment test and evaluation room and maintenance area. The Eastman Kodak stereo projection viewer and the Multiple Image Correlator have been delivered and are being held in their shipping crates awaiting the availability of suitable space for evaluation. Shipment of several other significant prototype items of equipment is imminent and the evaluation of these will also have to await properly prepared space.

A patent application in favor of the Government was submitted by [redacted] to protect a technique for making phase gratings, which they perfected in the Exploratory Developmental Laboratory. Their work in this area already has aroused the interest of several of our contractors and has the potential of producing significant savings to the Center in its developmental programs.

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The NPIC Photo Interpreter Performance program is rapidly progressing. Arrangements have now been completed for obtaining the required aerial photography. It is expected that samples will be available shortly for the preliminary experimental evaluations. The target dates for completion of the first two phases (9" to 36" and 3' to 10' ground resolution) are now established as October 15 and December 15, 1964.

GROUP 1
Excluded from automatic
downgrading and
declassification

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The first meeting of the Image Quality Evaluation Program Committee was held at NPIC 13-15 July.

The Assistant for Plans and Developments participated extensively during the month in discussions relating to proposed collection programs.

[redacted] USAF Air Weather Service, reported on duty and was assigned to the Exploratory Development Laboratory. [redacted] completed his tour with the Development Branch and departed for his next assignment.

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[redacted] had a set-back in his illness and was returned to the hospital. He made a rapid recovery, however, and is now recuperating at his summer place in Pennsylvania. He expects to report back to duty in September.

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DEVELOPMENT BRANCH

During July the budgets for FY-65 and FY-66 and the Contract Procurement Schedule for FY-65 were compiled. At this time there are 63 specific development projects scheduled for contract in FY-65 at a cost of [redacted]. The last items are scheduled to be under contract by March 1965. This schedule is intended to put the Center in a competitive position for additional funds at the end of the fiscal year if any are available.

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Work on new major development contracts was set into motion. Following the administrative settlement of contracts that was accomplished in June, monitors visited the corresponding facilities or met with company representatives in Washington to verify technical guidelines and initiate the work.

Some major equipment was delivered during the month. The Roll Film Rear-Projection Stereo Viewer developed by Eastman Kodak Company was delivered on 13 July, and the Stereo-Chip Comparator developed by OPTOmechanisms was delivered on 22 July.

Project status accounting records were brought up-to-date and considerable work was accomplished in the development of new procedures to provide timely status information on all projects.

Listed below are statistics relevant to branch operations during July:

Project Status	Initiated	In Work	Completed	Cancelled
Major (more than 40 man hrs)	6	119	3	1
Minor (less than 40 man hrs)	3	13	3	0

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Research and Development Objectives

In Work 0
Completed 0

Proposal Status

Received 2
In Work 18
Rejected 2
Accepted 0

Project Approval Requests

In Work 0
Completed 0

Contract Status	Number	Dollar Value
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Pending Obligations	5	
Contracted this Months	0	
Contracted this FY-65	0	
Completed this Month	0	
Current Total Contracts	72	

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Conferences for the month were held to a minimum and involved only 80 man hours. Following are listed the trips undertaken by Development Branch personnel during the month:

1 July - [] visited Offutt Air Force Base to search Air Force photography and select domestic target coverage for use under the Human Factors - Perkin Elmer Contract "Research in Photo Interpreter Performance".

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7 July - [] visited OPTOmechanisms in Plainview, New York, to monitor progress on the Model 552 Point Transfer Device and four High-Precision Stereo Viewers.

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8-10 July - [] attended the "Automatic Target Recognition" conference at Ohio State University.

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13 July - [] visited Diffraction Limited in Bedford, Mass., to confer with them and Mark Systems representatives regarding the development and construction of the Virtual Image Viewer.

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13-24 July - [] attended the University of Rochester Seminar on the "Fundamentals of Optical Design and Systems Evaluation".

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15 July - [] visited Bausch & Lomb in Rochester, New York, to monitor contracts on the Variable-Magnification Tracing Projector, Panoramic Stereo Viewer, and the production model of the High-Power Stereo Viewer.

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17-25 July - [] visited Nuclear Research Instruments in Berkley, California, for maintenance training on the Variable-Width Film Reader and the Varyscan Viewer. On the 24th he visited Computer Measurement Company in Sylmar, California, for maintenance training on their computer read-out system.

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20-23 July - [] visited Texas Instruments in Dallas, Texas, to review the contract for the collection of multi-sensor and ground truth data. On the 22nd they visited Vicksburg, Miss., to investigate the U. S. Army Waterways Experiment Station work in acquiring basic data pertaining to special sensors.

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I didn't make it. G.

PLANS BRANCH

[] completed the staff study concerning the Technical Development Committee and a proposed Joint Development Committee.

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The last of the comments on the P&DS study "Advanced Planning Concept for Technical Development" were received and forwarded to the Executive Director.

[] began efforts on a redesigned report on the Technical Development Program which will replace the narrative summary style of former reports.

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[] met with Lt. Col. Anderson and Major Wright concerning the progress of the Air Force color filtration project HISPEC. Imagery was obtained for [] use in the Human Factors project. Project HISPEC has slowed down considerably due to the interference of building construction at RADC.

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A Special Sensor Catalogue was started which will be a loose-leaf reference containing information on all efforts concerned with image-forming special sensors and multi-sensors. The catalogue will be available to appropriate NPIC personnel and will provide a ready-reference on latest developments.

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After coordination with TID and [] informally forwarded to Eastman Kodak a proposed format for titling film from the 115-A System. The proposal is considered feasible, and a formal request will be forwarded to [] who is the contract monitor with EK. 50X1

[] visited Itek/Alexandria to discuss further the Itek/NPIC project for the exploitation of side-looking radar materials. The Itek facility was examined to determine its ability to provide support. 50X1

[] visited Texas Instruments, Inc., Dallas, Texas, where they reviewed the progress being made on the project on sequential multi-sensor day-night target coverage. Considerable information also was gathered on other activities that might be of interest to NPIC. They then visited the U. S. Army Corps. of Engineers Waterways Experiment Station, Vicksburg, Miss., where they became familiar with projects concerning the determination of soil composition and soil trafficability through the use of remote sensors. The results could have considerable importance in determining the values of radar, IR, gamma radiation, etc., to the P. I. 50X1

Activities concerning the coordination of new systems have increased so significantly that it is difficult for a branch of only two people to keep up with the work.

EXPLORATORY DEVELOPMENT LABORATORY BRANCH

The Image Quality Evaluation Program began during the month. This is a continuation of the Drell Committee and is sponsored by NPIC. The current committee is composed of eleven representatives from industry and Government. The initial meetings were held at NPIC 13-15 July and were chaired by [] This is the first of a series of such meetings, in a year's continuing investigation which has as its goal the objective measurement of image quality from mission materials. 50X1

A breadboard demonstration of the Virtual Image Viewer was set up in the laboratory. This viewer allows direct viewing of an image while eliminating the need for a conventional screen. The breadboard will serve to introduce the operating principles to those not familiar with them and should improve understanding of such non-standard optical systems.

Work continued on the adjacency effect study. Although [] was away on annual leave most of the month he completed the draft of his preliminary report and began considering the design and fabrication

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of the requisite experimental equipment. [] has designed several pieces of equipment for use in this study such as those needed for basic immersion and controlled-agitation implementation.

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[] completed his report on the heating problem associated with the Richardson Viewers. A visitor to the center this month, Captain Louis Monti, USAF, expressed an interest in this work as his detachment in Japan has experienced the same problem with their viewers.

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[] continued their work on photographic phase gratings. Investigations were made to determine the fundamental physical properties of these gratings, to measure controlling parameters, and to predict grating behavior under coherent illumination. A suggestion was submitted to the Awards Committee which proposed that the laboratory produce crossed phase gratings for use in the Virtual Image Viewer. The breadboard model previously described uses an experimental version of such a grating. A report is currently in preparation which will culminate these studies. It is expected that this report will be issued by the end of August or the middle of September.

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[] visited NPIC this month for consultation with []. He was given excellent briefings by PAG and TID on matters relating to their work. Technical subjects pertinent to the EDL Branch efforts were discussed from which two tasks emerged and were assigned to Technical Operations under the current contract they hold with P&DS. One of these was to prepare a critique of edge-trace methods for ascertaining system transfer functions. The other was to consider the formulation of a mathematical description peculiar to asymmetrical spread functions to aid in understanding the effects such functions have on the over-all system transfer function. Both of these tasks are in support of the Image Quality Evaluation Program and will be highly useful to the committee members.

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[] spent the period 27-30 July in Rochester, New York, attending a course in microdensitometry at Eastman Kodak, under PAR 225 of the AL-14 contract.

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[] joined the Plans and Development staff this month and was assigned to the EDL Branch. [] is a specialist in atmospherics and can be expected to contribute greatly to the branch's progress in optical and photographic investigations.

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[] recently returned from [] where he received a PhD from []

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Assistant for Plans and Development

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